

Claims

1. A tubular product comprising at least three
5 layers, a base layer, an innermost layer made of plastic
by continuous extrusion, the base layer and the innermost
layer having poor adhesion to each other, and a tie layer
between the base layer and the innermost layer,
characterized in that the tie layer is of
10 foamed material at least in one intermediate layer.

2. A tubular product according to claim 1,
characterized in that the base layer consists
of the soil in the ground.

3. A tubular product according to claim 1,
15 characterized in that the base layer is made
of metal or plastic-coated metal.

4. A tubular product according to claim 3,
characterized in that the base layer
comprises radial grooves or ribs.

20 5. A tubular product according to any one of the
preceding claims, characterized in that the
inner surface of the base layer is rough which is
smoothened by the foamed tie layer and that the inner
surfaces of the tie layer and innermost layer are
25 substantially smooth.

6. A tubular product according to any one of the
preceding claims, characterized in that the
tie layer contains of fine filling agent.

30 7. A tubular product according to any one of the
preceding claims, characterized in that the
inner layer of the product is made of oriented plastic.

8. A tubular product according to any one of the
preceding claims, characterized in that the
tie layer comprises oriented foam bubbles.

35 9. A tubular product according to any one of the
preceding claims, characterized in that the
innermost layer and/or the tie layer is cross-linked
polyethylene.

40 10. A tubular product according to any one of the
preceding claims, characterized in that the

tie layer consists of grafted polyethylene.

11. A tubular product according to any one of the preceding claims, characterized in that the product is joined together with another similar product by 5 means of a cross-linked plastic sleeve (27) that has a diameter compressed to a smaller size than normally.

12. A tubular product according to any one of claims 1 to 10, characterized in that the product is joined together with another similar product by 10 means of a sleeve (28) situated inside the joint and a clamping collar (29) situated outside the joint.

13. An extrusion apparatus comprising means for extruding a multilayer parison comprising at least an inner plastic layer and a tie layer 15 characterized in that the tie layer is of foamed material and that the apparatus is arranged inside a tubular base layer and comprises an expanding mandrel for forcing the inner layer and the tie layer of foamed material against the base layer.

14. An extrusion method wherein a multilayer parison comprising at least an inner plastic layer and a tie layer is extruded, characterized in that the tie layer is of foamed material and that the plastic layer and the tie layer of foamed material are extruded 25 inside a tubular base layer and forced against the base layer by an expanding mandrel.